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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/234,518	01/21/1999	IN TAE HWANG	K-078	5980

7590 10/03/2002

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EXAMINER

TSEGAYE, SABA

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/234,518

Applicant(s)

HWANG ET AL.

Examiner

Saba Tsegaye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14-21 and 23-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 14, 17 and 19-21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 9, 11, 12, 15, 16, 18, 23 and 28 is/are rejected.
- 7) ☒ Claim(s) 4, 10, 24-27 and 29-34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 8, 9, 11, 12, 16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheng et al (US 6,393,008).

Regarding claim 8, Cheng discloses, in Fig1, a communication system which has a plurality of mobile terminals and a base station, each of the mobile terminals and/or the base station (100 a and 100b), comprising:

a MAC control sub-layer (106 a, b);

upper layers of the medium access control sub-layer (102a, b and 104 a, b); and

a lower layer of the medium access control sub-layer (108 a, b and 110a, b),

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wherein the medium access control sub-layer is configured to perform self-basic functions in response to basic function execution requests or functions associated with the upper layers or lower layer in response to requests therefrom (column 3, line 62-column 4, line 14),

wherein the MAC sub layer includes:

first channel control means for transferring information for synchronization between an originating end and a terminating end (column 5, lines 39-42),

setting a stand alone dedicated control channel between the originating end and the terminating end (column 5, lines 64-67), and

performing a cell setting operation between the originating end and the terminating end using the set control channel (column 5, lines 48-54); and

second channel control means for providing a connection-oriented point-to-point service to an upper layer of the first channel control means and monitoring a quality of a radio link formed between the originating end and the terminating end (column 5, lines 28-33).

Regarding claim 9, Cheng discloses a communication system, wherein the first channel control means includes:

A synchronization control entity for controlling a synchronization channel for transferring system time information and base station identification information (column 5, line 65-column 6, line 4);

a broadcast control entity for controlling a broadcasting control channel for broadcasting general system information (column 5, line 65-column 6, line 4); and

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a common control channel entity for setting or controlling the stand alone dedicated control channel between the originating end and the terminating end (column 5, line 65-column 6, line 4).

Regarding claim 11, Cheng discloses a communication system, wherein the second channel control means includes:

a dedicated control entity for controlling the stand alone dedicated control channel set between the originating end and the terminating end (column 5, line 65-column 6, line 4); and

a traffic control entity for controlling a traffic channel formed between the originating end and the terminating end (column 4, lines 52-56).

Regarding claim 12, Cheng discloses a communication system wherein the traffic control entity is adapted to vary a rate of the traffic channel according to a predetermined service type (column 5, lines 13-16, 24-27).

Regarding claims 16, 18, Cheng discloses a method of processing signals using medium access control sub-layers in a communications system which has a plurality of mobile terminals and a base station, the medium access control sub-layers being respectively provided in the mobile terminals and base station, the method comprising:

performing step being performed if signal processing operations of a corresponding one of the mobile terminals, of the base station, or between the corresponding mobile terminal and the base station are requested (column 5, lines 44-48);

performing a lower channel activation or deactivation control operation of the corresponding mobile terminal or base station, the step of performing the lower channel activation or deactivation control operation including:

transferring a communication path activation or deactivation request message from a specific one of the upper layers of the corresponding mobile terminal or base station to the lower layer of the corresponding mobile terminal or base station if the lower channel activation or deactivation control operation of the corresponding mobile terminal or base station is requested (column 6, lines 11-15);

allowing the lower layer to activate or deactivate a communication path in response to the communication path activation or deactivation request message from the specific upper layer (column 6, lines 11-18); and

allowing the lower layer to transfer the activated or deactivated result to the specific upper layer (column 6, lines 24-31; column 3, lines 62-65).

3. Claim 28 is rejected under 35 U.S.C. 102(e) as being anticipated by Korpela.

Korpela discloses mobile communications system. Fig 1 shows a mobile terminal 10, radio access networks 20 (a, b, c) and three backbone networks 30 (a, b, c). As shown in Fig 6, each of the protocol code files 151-153 comprises a network layer portion for performing backbone network dependent protocols; and a mobility management layer for performing mobility management and other resource function. Further, Fig 6 shows the lower layer 131 (the physical layer, the logical link sub-layer and the link control MAC layer), the radio bearer control layer 132 (which provide protocols to set up and manage sessions by negotiating the

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necessary barer capacities) and radio resource protocol 134 (claimed perform functions associated with the upper layers). See column 5, line 21- column 6, line 14; column 7, lines 35-58.

Further, Korpela discloses an initialization mode step (column 7, lines 39-42), a radio resource allocation mode step (column 7, lines 42- 51) and an idle mode step (column 7, lines 35-38, lines 52-58).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1- 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Korpela (US 5,946,634).

Cheng discloses, in Fig1, a communication system which has a plurality of mobile terminals and a base station, each of the mobile terminals and/or the base station (100 a and 100b), comprising:

a MAC control sub-layer (106 a, b);

upper layers of the medium access control sub-layer (102a, b and 104 a, b); and

a lower layer of the medium access control sub-layer (108 a, b and 110a, b),

wherein the medium access control sub-layer is configured to perform self-basic functions in response to basic function execution requests or functions associated with the upper layers or lower layer in response to requests therefrom (column 5, lines 28-33),

wherein the basic function include:

a random access control information transfer function (column 2, lines 47-49),

a control information transfer function (column 2, lines 47-49),

a user information transfer function (column 2, lines 61-64),

framing/deframing functions (column 4, lines 42-43),

segmentation/reassembly functions (column 3, lines 17-20),

functions of dividing a frame of a specific one of the upper layers into channels of the lower layer and vice versa (column 2, lines 57-67),

and

a rate adoption function of adjusting a number of bits suitably for a radio frame (column 2, lines 57-64)

wherein the associated functions include:

a synchronization information control function (column 4, lines 43-46; column 6, lines 16-31),

a system information control function (column 6, lines 1-4),

lower channel activation/deactivation functions (column 5, lines 41-43, lines 50-55), and

a multi-bearer sequencing function of sequencing a multi-code (column 4, lines 52-56).

However, Cheng does not disclose expressly the followings:

a cyclic redundancy check function, a function of detecting an error of a medium access control sub-layer frame, and

quality monitoring and reporting functions of, for maintenance of traffic channel quality, supporting power control, triggering a handover of reporting a channel condition upon traffic channel allocation.

Korpela discloses a mobile communications system in which a mobile terminal is adapted to communicate in a common physical layer format, and to utilize two or more different higher-level communication protocols, and further includes a control device for selecting one of the higher-level formats.

Further, Korpela discloses:

a cyclic redundancy check function, a function of detecting an error of a medium access control sub-layer frame (column 4, lines 4-8),

quality monitoring and reporting functions of, for maintenance of traffic channel quality, supporting power control, triggering a handover of reporting a channel condition upon traffic channel allocation (column, 5, lines 30-38).

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a cyclic redundancy check, a quality monitoring and a reporting functions, such as that suggested by Korpela, in the system of Cheng in order to enhance accuracy and to increase transmission speed.

6. Claims 15 and 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng in view of Thornberg et al. (US 5,742,588).

Cheng discloses all the claim limitations as stated above except for a forward access channel associated with a channel request acknowledge message and channel response message which are sent from the base station to the corresponding mobile terminal; and a reverse access channel associated with a channel request message which is sent from the corresponding mobile terminal to the base station.

Thornberg discloses, in Figs 3a and 3b, the exchange of signals on the uplink UL and downlink DL of a cellular system that is between a mobile station 300 and the network 302. Further, Thornberg teaches that if the transmitted UL data packet requires an acknowledgment, an acknowledgment message is sent from NW to the MS on a DL mobile station information packet.

It would have been obvious to one ordinary skill in the art at the time the invention was made to add a request acknowledge message, a response message and a request message, such as that suggested by Thornberg, in the forward and the reverse access channels of Cheng in order to provide a system for managing packet switched traffic in a cellular telecommunications system and to control the average packet delays on both the uplink and downlink channels.

Allowable Subject Matter

7. Claims 5-7, 14, 17, 19-21 are allowed.

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8. Claims 4, 10, 24-27 and 29-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1-12, 14-21 and 23-34 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

ST
September 30, 2002


HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
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